



# SENSORY ANALYSIS

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**Part 1 : Sensory analysis as a science**

**Part 2 : About sensory perception**

**Part 3 : Coffee sensory analysis :  
method & vocabulary**

**Part 4 : Sensory analysis : Interest for GI**



**Part 1 :**

**SENSORY ANALYSIS AS A  
SCIENCE**



# ORGANOLEPTIC CHARACTERISTICS MEASUREMENT

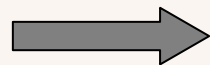
- Scientific method based on international standards (ISO)
- Aim : defining a link between stimulus and sensory perception





# AIMS OF SENSORY ANALYSIS

- Studying preferences
- Analyzing (especially describe)



Two different methods

# HEDONIC APPROACH

- Studying consumers preferences
- Naive assessors 60 to 100 people
- Representative panel of the target population

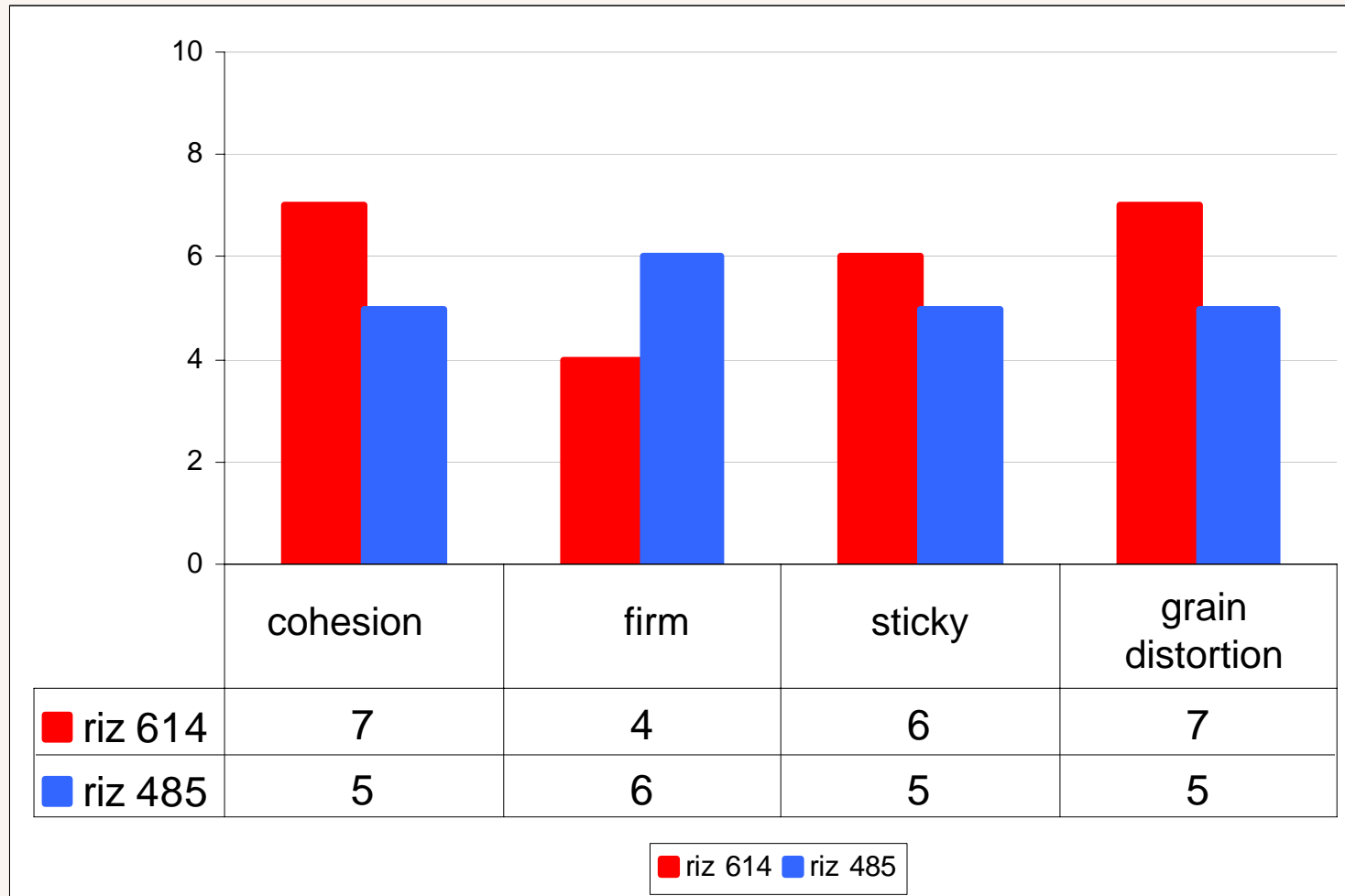




# ANALYTIC APPROACH

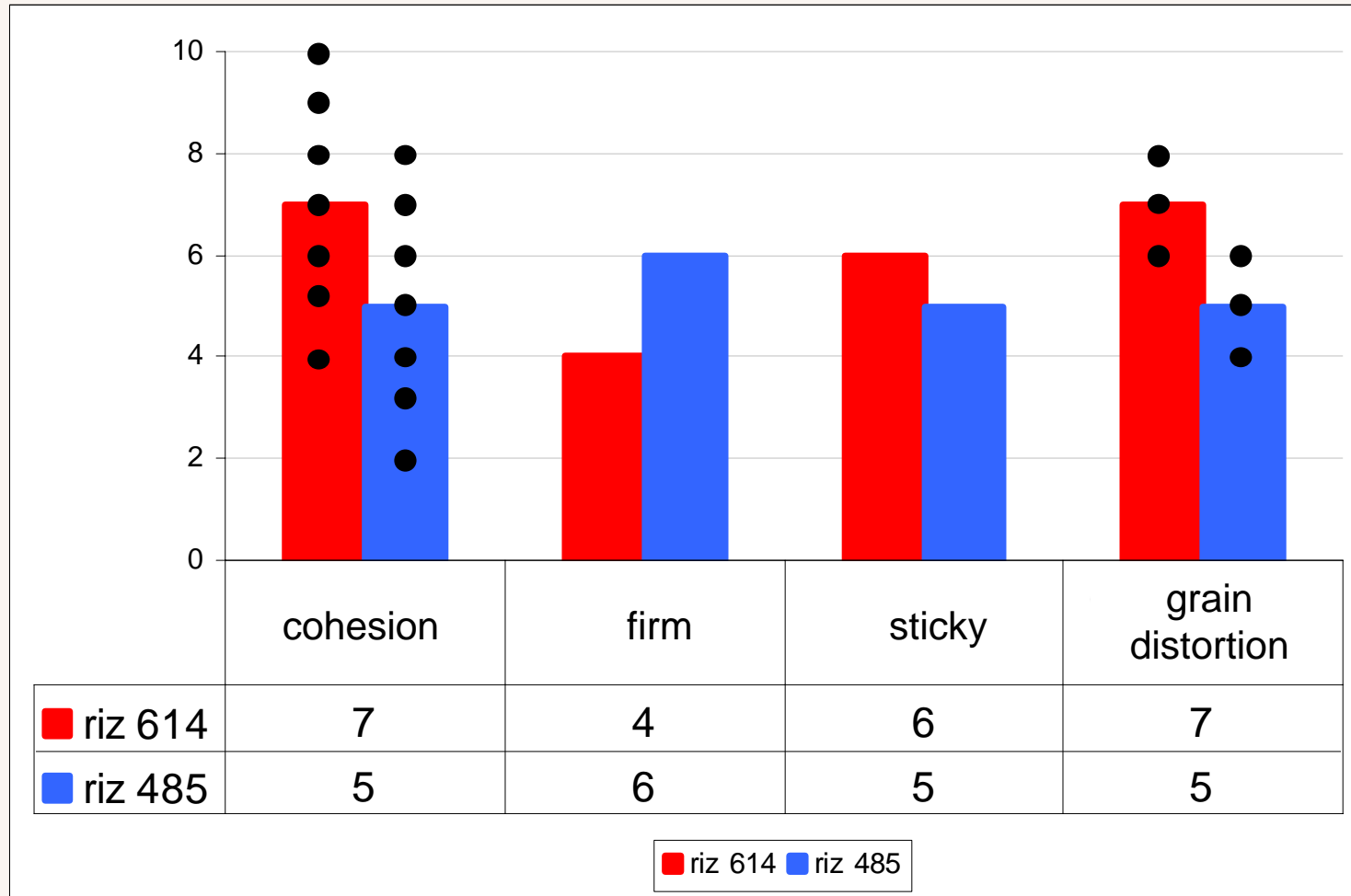
Descriptive Test : establishing a profile

Organoleptic differences between two rices





# ANALYTIC APPROACH



Concordance between panelists: statistics



# DESCRIPTIVE PANEL

- Anyone may be trained : motivation and availability
- Regular training to
  - Be able to name sensation: memorization of smells, flavours, textures
  - Be able to quantize (references)





# SENSORY ANALYSIS AS A SCIENCE

Need of rigour in:

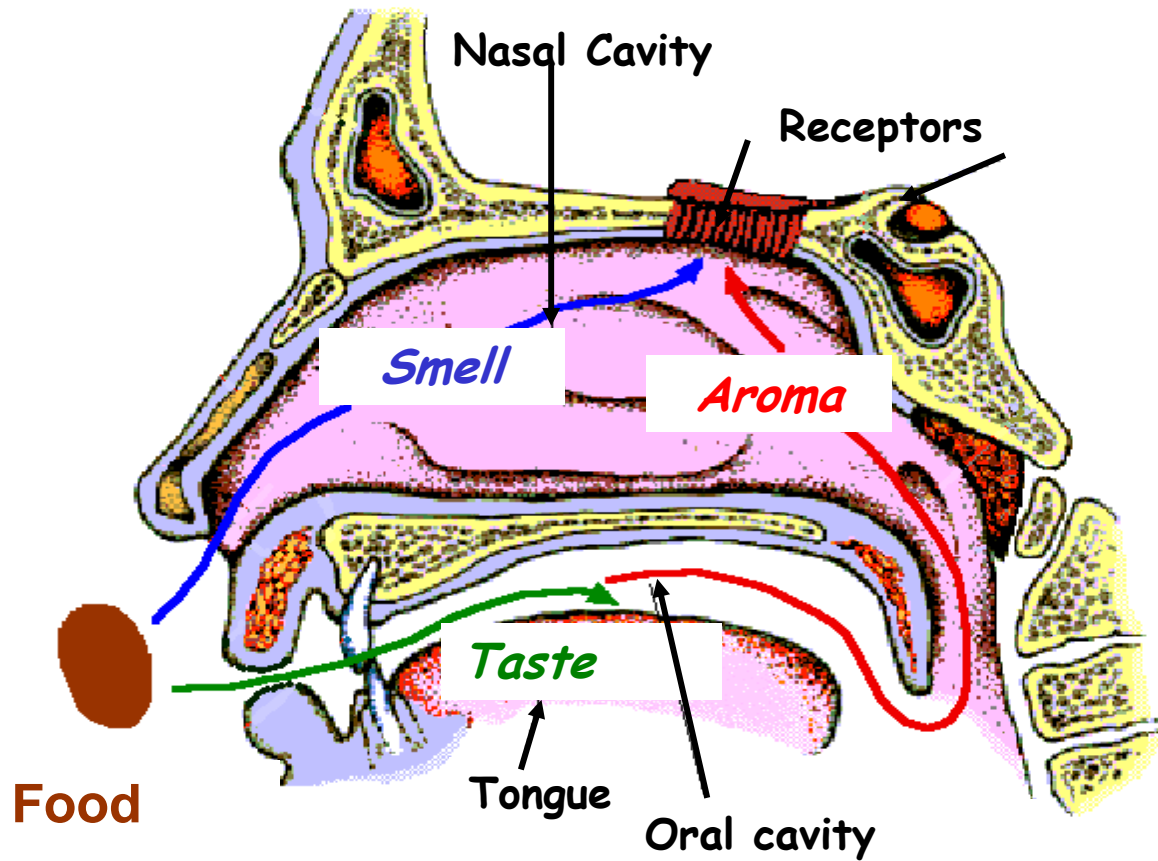
- Protocols  
(sampling, preparation, blind test, analyze, repetition)
- Training of panelist
- Statistics



**Part 2 :**

# **ABOUT SENSORY PERCEPTION**

# ABOUT SENSORY PERCEPTION





## **Part 3 :**

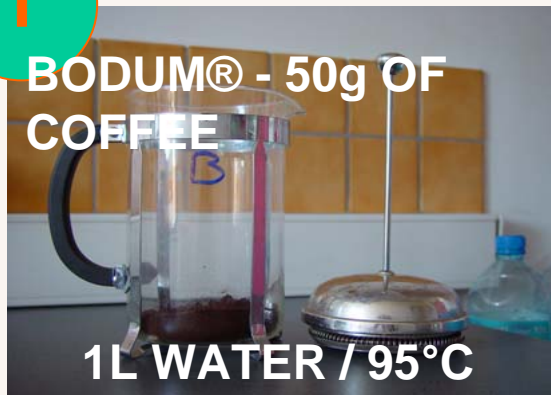
# **COFFEE SENSORY ANALYSIS : METHOD & VOCABULARY**

# METHODOLOGY

1

BODUM® - 50g OF  
COFFEE

1L WATER / 95°C



2

STIRRING ROD

NON STIR

STIR



3

FILTER AFTER 5mn



4

SERVE





# METHOD OF TASTING :

## 3 STEPS

- Smell
- Taste all the coffees
- Retest each coffee for profile



# STEP 1 : SMELL

- Smell warm coffee  
Some smells disappear rapidly
- Smell intensity :  
Smell strength, good or not





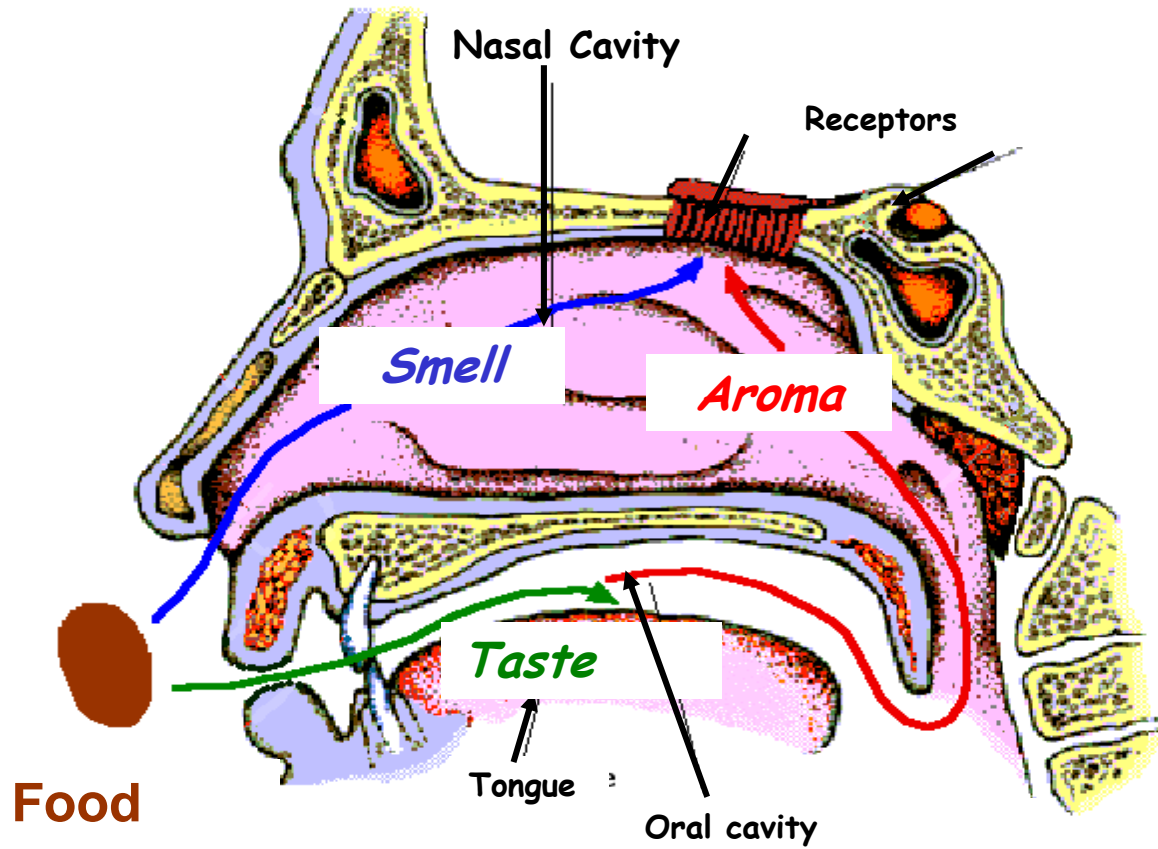
# STEP 2 : TASTE ALL THE COFFEES

- To catch an idea about all the coffees





# INTAKE OF AIR





# COFFEE CIRCULATE ALL AROUND THE MOUTH



## STEP 3 : DESCRIBE EACH COFFEE

- Take again coffees in the order of presentation
- Note each coffee for all the descriptors (from 0 to 10)

## STEP 3 : DESCRIBE EACH COFFEE

- Body : impression of consistency, strength of aromas  
no body (0) to hard body (10)
- Acidy : basic flavor (references : tartaric acid or citric acid)
- Bitterness : basic flavor, feeling in the whole mouth and the tongue (references : quinine solution or caffeine)



## STEP 3 : DESCRIBE EACH COFFEE

- Fruity : mature and perfume fruit flavors
- Global Quality : global appreciation on the coffee, take into account all sensory characteristics, typical flavors (and their intensity) and particular characteristics



**Part 4 :**

**ENSORY ANALYSIS : INTEREST  
FOR GI**



# Sensory analysis : Interest for GI





# 1 - IDENTIFY PRODUCT

- Characterization & identification of typology
- From feeling to the description
- Main elements influencing sensory characteristics





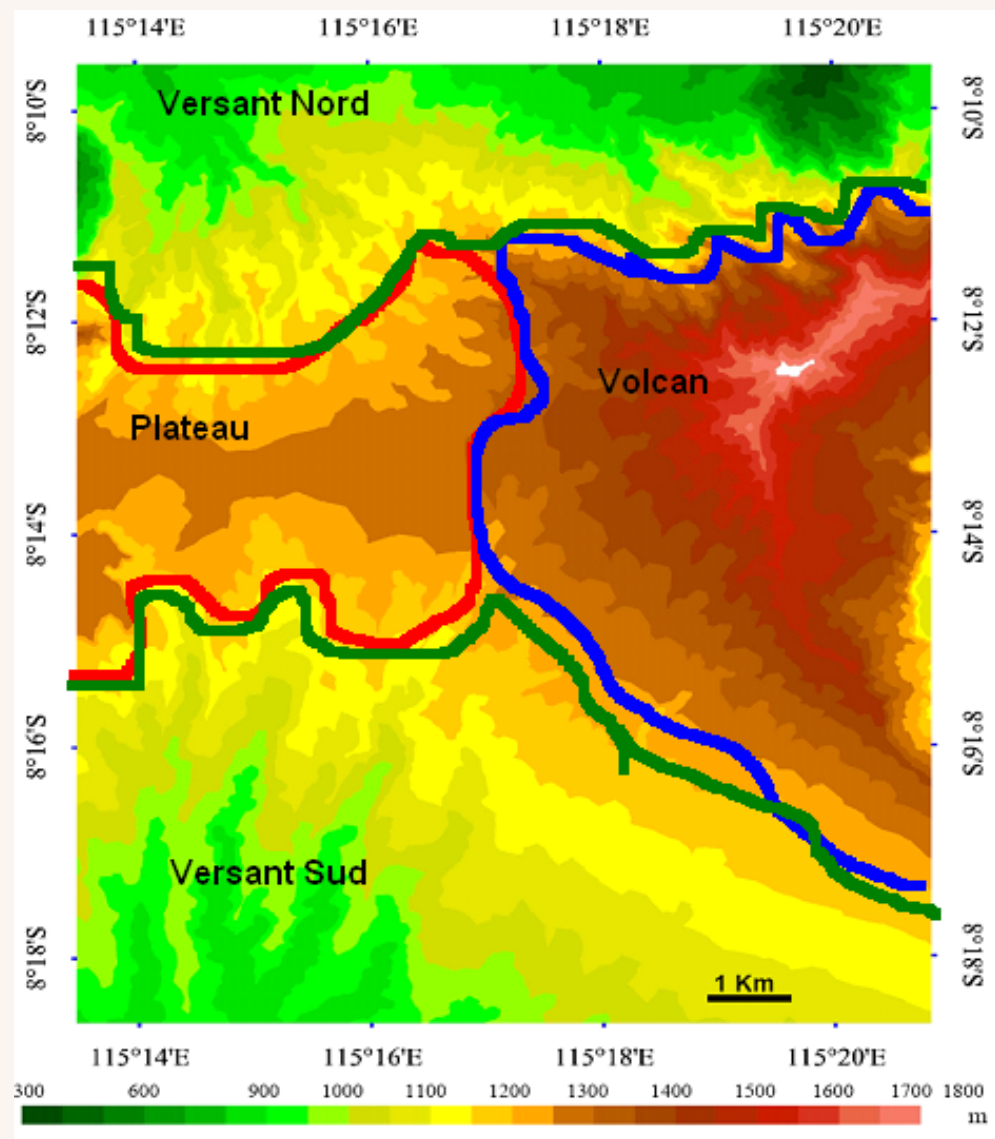
# EXAMPLE OF IDENTIFICATION

Bali : 100 controlled samples x 2 years of picking

Three groups of coffee identified :

- acid & greenish
- acid & fruity
- bitter

# EXAMPLE OF IDENTIFICATION





# EXAMPLE OF IDENTIFICATION

- Main agronomic factors influencing quality :
  - Altitude
  - Shade
  - Localization
  - Variety



# EXAMPLE OF IDENTIFICATION

- Interest : decision-support tool for local organization
  - Typicity of product
  - Tool to define specifications
  - Exclusion
- Coordination with agronomy, technology, teledetection, economy, farmers organization, juridical, marketing



## 2 – BUILDING A TOOL OF MEASUREMENT

Training of local panel :

- Multi approach method, autonomy
- Subjectivity of quality



# GENERALLY SPEAKING

- Valid for all quality labels
- For countries : tools for organization & orientation on appropriate markets
- Crossing with chemical data



# PRESENTATION UMR QUALISUD



## Integrated processes for food quality

Food quality, in all its facets, sanitary, nutritional, organoleptic, is central to the concerns of consumers, agrifood manufacturers and health specialists. A better understanding of quality throughout the chain of production, processing and distribution is necessary to satisfy their expectations.

The aim of the research unit is to develop an integrated approach for the manufacture and preservation of high quality foods in Southern countries.



# PRESENTATION UMR QUALISUD

4 teams with 72 researcher from Cirad,  
university & Sup Agro

- Typicity, preservation & non destructive quality evaluation of crops
- Determinants of organoleptics & nutritional quality of fresh & processing products
- Stabilization & transformation processes
- Control of food chain contaminants